WE CLAIM:

1. A method of producing an improved cathode substrate for a field emission display comprising the steps of:

providing a substrate;

depositing a cap layer on said substrate; and

forming an array of emitter tips on said substrate.

2. The method according to claim 1 wherein said substrate comprises soda-lime glass.

3. The method according to claim 1 wherein said cap layer is deposited on said substrate by plasma enhanced, chemical vapor deposition.

4. The method according to claim 1 wherein said cap layer has a thickness in the range of 0.1 to 0.5 microns.

5. The method according to claim 1 wherein said cap layer is selected from the group consisting of silicon dioxide, silicon nitride, silicon carbide, and diamond-like carbon.

6. The method according to claim 1 wherein said substrate is a plastics material.

7. The method according to claim 1 wherein said substrate is a non-conductive material.

8. The method according to claim 1 further comprising the step of leaching the substrate prior to deposition of said cap layer.

9. The method according to claim 1 further comprising to step of including a light blocking layer within said cap layer.

10. The method according to claim 1 further comprising to step of including an anti-reflective coating within said cap layer.

11. An improved cathode substrate for a field emission display comprising:

a substrate;

a cap layer deposited on said substrate; and

an array of emitter tips formed on said substrate.

12. An improved cathode substrate according to claim 11 wherein said substrate is a soda-lime glass.

13. An improved cathode substrate according to claim 11 wherein said cap layer is deposited on said substrate by plasma enhanced, chemical vapor deposition.

14. An improved cathode substrate according to claim 11 wherein said cap layer has a thickness in the range of 0.1 to 0.5 microns.

15. An improved cathode substrate according to claim 11 wherein said cap layer is selected from the group consisting of silicon dioxide, silicon nitride, silicon carbide, and diamond-like carbon.

16. An improved cathode substrate according to claim 11 wherein said substrate is plastics material.

17. An improved cathode substrate according to claim 11 wherein said substrate is a non-conductive material.

18. An improved cathode substrate according to claim 11

wherein said substrate is leached prior to deposition of said cap layer.

19. An improved cathode substrate according to claim 11 wherein said cap layer includes a light blocking layer.

20. An improved cathode substrate according to claim 11 wherein said cap layer includes an anti-reflective coating.

21. An improved cathode substrate for a field emission display formed by the steps of:

providing a substrate;

depositing a cap layer on said substrate; and

forming an array of emitter tips on said substrate.

22. An improved cathode substrate according to claim 21 wherein said substrate is a soda-lime glass.

23. An improved cathode substrate according to claim 21 wherein said cap layer is deposited on said substrate by plasma enhanced, chemical vapor deposition.

24. An improved cathode substrate according to claim 21 wherein said cap layer has a thickness in the range of 0.1 to 0.5 microns.

25. An improved cathode substrate according to claim 21 wherein said cap layer is selected from the group consisting of silicon dioxide, silicon nitride, silicon carbide, and diamond-like carbon.

26. An improved cathode substrate according to claim 21 wherein said substrate is formed of a plastics material.

27. An improved cathode substrate according to claim 21 wherein said substrate is formed of a non-conductive material.

28. An improved cathode substrate according to claim 21 wherein said substrate is leached prior to deposition of said cap layer.

29. An improved cathode substrate according to claim 21 wherein said cap layer includes a light blocking layer.

30. An improved cathode substrate according to claim 21 wherein said cap layer includes an anti-reflective coating.

add A3